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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,698	03/30/2004	David P. Craig	2003-IP-011572	5836

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EXAMINER	
HENSON, MISCHITA L	
ART UNIT	**PAPER NUMBER**
2857	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/813,698	CRAIG, DAVID P.	
	Examiner	Art Unit	
	Mi'schita' Henson	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-18 and 22-30* is/are rejected.

7)☐ Claim(s) *4-6 and 19-21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on May 21, 2009, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent Numbers 7,054,751, 7,272,973 and 7,389,185 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11 and 26 recite "a log-log graph of a pressure function versus time: I(Δp) = f(Δt)", it is unclear which function represents the pressure function. Further, "I" is undefined and is therefore unclear what "I" represents. Further still, Applicant has defined I(Δp) to be equal to both f(Δt) and $\int_0^{\Delta t} \Delta p d \Delta t$, it is unclear if f(Δt) is also equal to $\int_0^{\Delta t} \Delta p d \Delta t$. Even further still, in $\int_0^{\Delta t} \Delta p d \Delta t$, it is unclear if the Applicant intends integrate Δpd times Δt *or* Δp times dΔt; in either case neither Δpd nor dΔt has been defined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 7-9, 13-18, 22-24 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patzek et al. in US Patent 6,904,366, in view of Engler et al. in NPL "Analysis of pressure and pressure derivative without type curve matching, 4. Naturally fractured reservoirs".

Regarding claim 1, Patzek et al. teaches:

A method of detecting a fracture with residual width from a previous well treatment during a well fracturing operation in a subterranean formation containing a reservoir fluid (see waterflooding, column 1 lines 29-55), comprising the steps of:

(a) injecting an injection fluid into the formation at an injection pressure exceeding the formation fracture pressure (see "injecting water or other fluids", column 1 liens 32-34; see also "excess injector pressure is used..." (i.e. exceeding the formation fracture pressure), column 1 lines 45-50; see also water injection, column 5 lines 28-33);

(b) gathering pressure measurement data from the formation during the injection and a subsequent shut-in period (see "a time measurement device, a pressure measurement device...", column 2 lines 54-55; see also column 2 lines 10-17; see also MEMS sensors, column 5 lines 60-63; see also column 6 lines 35-36);

(c) transforming the pressure measurement data into a constant rate equivalent pressure (see "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33 (an equivalent simpler form is interpreted to be a constant rate equivalent pressure);

Patzek et al. differs from the claimed invention in that it does not explicitly teach (d) detecting the presence of a dual unit-slope wellbore storage in the transformed pressure measurement data, said dual unit-slope being indicative of the presence of a fracture retaining residual width.

Engler et al. teaches direct synthesis for interpreting pressure transient tests in naturally fractured reservoirs that includes the effect of the wellbore storage (Abstract). Further, Engler et al. teaches "the method combines the characteristic points and slopes from a log-log plot of pressure and pressure derivative data with the exact, analytically solution to obtain reservoir properties. It has been successfully applied to…homogenous reservoirs with skin and wellbore storage…vertically fractured wells…" (i.e. detecting the presence of a dual unit-slope wellbore storage in the transformed pressure measurement data, said dual unit-slope being indicative of the presence of a fracture retaining residual width, Background par. 4, see Step-by-step procedures *Step 3, Step 8* and *Solution* par. 1, and Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Engler et al. with Patzek et al. because Engler et al. teaches the direct synthesis method that offers consistent and

accurate results from pressure tests with or without all reservoir flow regimes (Abstract), thereby improving the accuracy and reliability of the system.

Regarding claim 2, Patzek et al. and Engler et al. teach the limitations of claim 1 as indicated above. Further, Patzek et al. teaches:

The method of claim 1 wherein the time of injection is limited to the time required for the reservoir fluid to exhibit pseudoradial flow (see pseudo-radial, column 10 lines 25-30).

Regarding claim 3, Patzek et al. and Engler et al. teach the limitations of claim 1 as indicated above. Further, Patzek et al. teaches:

The method of claim 1 wherein the reservoir fluid is compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15); and

the transformation of pressure measurement data is based on the properties of the compressible fluid contained in the reservoir (see "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33).

Regarding claim 7, Patzek et al. and Engler et al. teach the limitations of claim 3 as indicated above. Further, Patzek et al. teaches:

The method of claim 3 wherein the injection fluid is slightly compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also slightly compressible injection fluid, column 36, lines 23-27).

Regarding claim 8, Patzek et al. and Engler et al. teach the limitations of claim 3 as indicated above. Further, Patzek et al. teaches:

The method of claim 3 wherein the injection fluid is compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also compressible injection fluid, column 36, lines 23-27).

Regarding claim 9, Patzek et al. and Engler et al. teach the limitations of claim 1 as indicated above. Further, Patzek et al. teaches:

The method of claim 1 wherein the reservoir fluid is slightly compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15); and

the transformation of pressure measurement data is based on the properties of the slightly compressible fluid contained in the reservoir (see "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33).

Regarding claim 13, Patzek et al. and Engler et al. teach the limitations of claim 9 as indicated above. Further, Patzek et al. teaches:

The method of claim 9 wherein the injection fluid is compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also compressible injection fluid, column 36, lines 23-27).

Regarding claim 14, Patzek et al. and Engler et al. teach the limitations of claim 9 as indicated above. Further, Patzek et al. teaches:

The method of claim 9 wherein the injection fluid is slightly compressible and contains desirable additives for compatibility with said formation (see fluid, especially

emulsions and mixtures, column 6 lines 3-8; see also slightly compressible injection fluid, column 36, lines 23-27).

Regarding claim 15, Patzek et al. teaches:

A system for detecting a fracture with residual width from a previous well treatment during a well fracturing operation in a subterranean formation containing a reservoir fluid, comprising:

- a pump for injecting an injection fluid at an injection pressure exceeding the formation fracture pressure (means for pumping water is interpreted to be a pump, see column 1 lines 49-51; see also pump pressure, column 39 lines 37-39; see also "excess injector pressure is used…" (i.e. exceeding the formation fracture pressure), column 1 lines 45-50)

- means for gathering pressure measurement data in the wellbore at various points in time during the injection and a subsequent shut-in period (see "a time measurement device, a pressure measurement device…", column 2 lines 54-55; see also column 2 lines 10-17; see also MEMS sensors, column 5 lines 60-63; see also column 6 lines 35-36);

- processing means for transforming said pressure measurement data into a constant rate equivalent pressure (a computer, especially microprocessor or digital signal processor, is interpreted to be a processing means for transforming, see computer, column 4 line 65-column 5 line 7; see also "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33 (an equivalent

simpler form is interpreted to be a constant rate equivalent pressure); see also means for analyzing and manipulating, column 6 lines 19-28);

Patzek et al. differs from the claimed invention in that it does not explicitly teach means for detecting the presence of a dual unit-slope wellbore storage in the transformed pressure measurement data, said dual unit-slope being indicative of the presence of a fracture retaining residual width.

Engler et al. teaches direct synthesis for interpreting pressure transient tests in naturally fractured reservoirs that includes the effect of the wellbore storage (Abstract). Further, Engler et al. teaches "the method combines the characteristic points and slopes from a log-log plot of pressure and pressure derivative data with the exact, analytically solution to obtain reservoir properties. It has been successfully applied to...homogenous reservoirs with skin and wellbore storage...vertically fractured wells..." (the means for detecting the pressure and pressure derivative curves is interpreted to be means for detecting the presence of a dual unit-slope wellbore storage in the transformed pressure measurement data, said dual unit-slope being indicative of the presence of a fracture retaining residual width, Background par. 4, see Step-by-step procedures *Step 3, Step 8* and *Solution* par. 1, and Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Engler et al. with Patzek et al. because Engler et al. teaches the direct synthesis method that offers consistent and accurate results from pressure tests with or without all reservoir flow regimes (Abstract), thereby improving the accuracy and reliability of the system.

Regarding claim 16, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above. Further, Patzek et al. teaches plotting pressure distribution data or pressure vs. time (the means for plotting is interpreted to be graphics means for plotting said transformed pressure measurement data, see for example, Figs. 2A-12).

Regarding claim 17, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above.

The system of claim 15 wherein the time of injection is limited to the time required for the reservoir fluid to exhibit pseudoradial flow (see pseudo-radial, column 10 lines 25-30).

Regarding claim 18, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above.

The system of claim 15 wherein the reservoir fluid is compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15); and

the transformation of pressure measurement data is based on the properties of the compressible fluid contained in the reservoir (see "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33).

Regarding claim 22, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above. Further, Patzek et al. teaches:

The system of claim 15 wherein the injection fluid is compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also compressible injection fluid, column 36, lines 23-27).

Regarding claim 23, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above. Further, Patzek et al. teaches:

The system of claim 15 wherein the injection fluid is slightly compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also slightly compressible injection fluid, column 36, lines 23-27).

Regarding claim 24, Patzek et al. and Engler et al. teach the limitations of claim 15 as indicated above. Further, Patzek et al. teaches:

The system of claim 15 wherein the reservoir fluid is slightly compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15); and

the transformation of pressure measurement data is based on the properties of the slightly compressible fluid contained in the reservoir (see "variable injection pressure and transformed it to an equivalent simpler form", column 20 lines 20-33).

Regarding claim 28, Patzek et al. teaches:

A system for detecting a fracture with residual width from a previous well treatment during a well fracturing operation in a subterranean formation containing a reservoir fluid, comprising:

- a pump for injecting an injection fluid at an injection pressure exceeding the formation fracture pressure (means for pumping water is interpreted to be a pump, see column 1 lines 49-51; see also pump pressure, column 39 lines 37-39; see also "excess injector pressure is used…" (i.e. exceeding the formation fracture pressure), column 1 lines 45-50)

- means for gathering pressure measurement data in the wellbore at various points in time during the injection and a subsequent shut-in period (see “a time measurement device, a pressure measurement device…”, column 2 lines 54-55; see also column 2 lines 10-17; see also MEMS sensors, column 5 lines 60-63; see also column 6 lines 35-36);

- processing means for transforming said pressure measurement data into a constant rate equivalent pressure (a computer, especially microprocessor or digital signal processor, is interpreted to be a processing means for transforming, see computer, column 4 line 65-column 5 line 7; see also “variable injection pressure and transformed it to an equivalent simpler form”, column 20 lines 20-33 (an equivalent simpler form is interpreted to be a constant rate equivalent pressure); see also means for analyzing and manipulating, column 6 lines 19-28); and

- graphics means for plotting said transformed pressure measurement data representative of before and after closure periods of wellbore storage (the means for plotting is interpreted to be graphics means for plotting said transformed pressure measurement data, see for example, Figs. 2A-12)

Patzek et al. differs from the claimed invention in that it does not explicitly teach detecting a dual unit-slope wellbore storage indicative of the presence of a fracture retaining residual width.

Engler et al. teaches direct synthesis for interpreting pressure transient tests in naturally fractured reservoirs that includes the effect of the wellbore storage (Abstract). Further, Engler et al. teaches “the method combines the characteristic points and slopes

from a log-log plot of pressure and pressure derivative data with the exact, analytically solution to obtain reservoir properties. It has been successfully applied to...homogenous reservoirs with skin and wellbore storage...vertically fractured wells..." (detecting the pressure and pressure derivative curves is interpreted to be detecting a dual unit-slope wellbore storage indicative of the presence of a fracture retaining residual width, Background par. 4, see Step-by-step procedures *Step 3, Step 8* and *Solution* par. 1, and Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Engler et al. with Patzek et al. because Engler et al. teaches the direct synthesis method that offers consistent and accurate results from pressure tests with or without all reservoir flow regimes (Abstract), thereby improving the accuracy and reliability of the system.

Regarding claim 29, Patzek et al. and Engler et al. teach the limitations of claim 28 as indicated above. Further, Patzek et al. teaches:

The system of claim 28 wherein

- the reservoir fluid is compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15);

- the injection fluid is compressible or slightly compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also slightly compressible injection fluid, column 36, lines 23-27); and

- the transformation of pressure measurement data is based on the properties of the compressible reservoir fluid (see “variable injection pressure and transformed it to an equivalent simpler form”, column 20 lines 20-33).

Regarding claim 30, Patzek et al. and Engler et al. teach the limitations of claim 28 as indicated above. Further, Patzek et al. teaches:

The system of claim 28 wherein

- the reservoir fluid is slightly compressible (see reservoir filled with a slightly compressible fluid, column 11 lines 11-15);

- the injection fluid is compressible or slightly compressible and contains desirable additives for compatibility with said formation (see fluid, especially emulsions and mixtures, column 6 lines 3-8; see also slightly compressible injection fluid, column 36, lines 23-27); and

- the transformation of pressure measurement data is based on the properties of the slightly compressible reservoir fluid (see “variable injection pressure and transformed it to an equivalent simpler form”, column 20 lines 20-33).

4. Claims 10, 12, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patzek et al. in US Patent 6,904,366 and Engler et al. in NPL “Analysis of pressure and pressure derivative without type curve matching, 4. Naturally fractured reservoirs” as applied to claims 9 and 27 above, and further in view of Espinosa-Paredes et al. in NPL “Estimation of static formation temperatures in geothermal wells”.

Regarding claim 10, Patzek et al. and Engler et al. teach the limitations of claim 9 as indicated above. Further, Engler et al. teaches a pressure difference Δp (see Δp, Step-by-step procedures *Step 1*, Notation and Fig. 10).

Patzek et al. and Engler differ from the claimed invention in that they do not necessarily teach the shut-in time relative to the end of the injection to be $\Delta t = t - t_{ne}$.

Espinosa-Paredes et al. teaches estimating geothermal well data using information obtain during drilling stoppages, after circulation stops and the well returns to thermal equilibrium wherein Δt is the time elapsed since circulation stops, also known as shut-in time (i.e. shut-in time relative to the end of the injection, see Δt, sections 2.1-2.2 on pages 1346-1348; see also Introduction, pg. 1343).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Espinosa-Paredes et al. with Patzek et al. and Engler et al. because Espinosa-Paredes et al. teaches numerical simulation of combined circulation and shut-in period in wells (Abstract), thereby increasing the accuracy of the system.

Regarding claim 12, Patzek et al., Engler et al. and Espinosa-Paredes et al. teach the limitations of claim 10 as indicated above. Further, Engler et al. teaches plotting a log-log graph of a pressure function versus time where $\Delta' p = \Delta p \Delta t$ (see $\Delta' p$, Step-by-step procedures *Step 3* and *Solution* par. 1 and Fig. 10; see also t*dp, Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Espinosa-Paredes et al. with Patzek et al. and Engler et al. because Espinosa-Paredes et al. teaches numerical

simulation of combined circulation and shut-in period in wells (Abstract), thereby increasing the accuracy of the system.

Regarding claim 25, Patzek et al. and Engler et al. teach the limitations of claim 24 as indicated above. Further, Engler et al. teaches a pressure difference Δp (see Δp, Step-by-step procedures *Step 1*, Notation and Fig. 10).

Patzek et al. and Engler differ from the claimed invention in that they do not necessarily teach the shut-in time relative to the end of the injection to be $\Delta t = t - t_{ne}$.

Espinosa-Paredes et al. teaches estimating geothermal well data using information obtain during drilling stoppages, after circulation stops and the well returns to thermal equilibrium wherein Δt is the time elapsed since circulation stops, also known as shut-in time (i.e. shut-in time relative to the end of the injection, see Δt, sections 2.1-2.2 on pages 1346-1348; see also Introduction, pg. 1343).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Espinosa-Paredes et al. with Patzek et al. and Engler et al. because Espinosa-Paredes et al. teaches numerical simulation of combined circulation and shut-in period in wells (Abstract), thereby increasing the accuracy of the system.

Regarding claim 27, Patzek et al., Engler et al. and Espinosa-Paredes et al. teach the limitations of claim 25 as indicated above. Further, Engler et al. teaches plotting a log-log graph of a pressure function versus time where $\Delta' p = \Delta p \Delta t$ (see $\Delta' p$, Step-by-step procedures *Step 3* and *Solution* par. 1 and Fig. 10; see also t*dp, Fig. 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Espinosa-Paredes et al. with Patzek et al. and Engler et al. because Espinosa-Paredes et al. teaches numerical simulation of combined circulation and shut-in period in wells (Abstract), thereby increasing the accuracy of the system.

Allowable Subject Matter

5. Claims 4-6 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments, see remarks pages 10-11, filed May 21, 2009 with respect to the rejection(s) of claim(s) 1, 3-4, 7-9, 15-16 and 28 on the grounds of nonstatutory obviousness-type Double Patenting have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Patzek et al. and Engler et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gringarten in US Patent 4,607,524 teaches a method for obtaining a dimensionless representation of well pressure data without the use of type curves but instead uses a pressure derivative curve (Abstract and column 2 line 60-column 3 line

22) wherein it is common practice to utilize various techniques for identifying well and reservoir behavior. To identify such behavior, physical characteristics and parameters of the underground formation are found. The particular underground formation of interest is analyzed by obtaining experimental pressure data over time (column 1 lines 13-34). Further, Gringarten teaches "the case of wellbore storage, the slope is a unit slope and the user causes a straight line of unit slope...The intersection of such a unit slope straight line with the horizontal straight line identifying the pressure stabilization level always has a value equal to 0.5 when wellbore storage exists" (column 3 lines 60-68, column 7 lines 8-10 and Fig. 4).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mi'schita' Henson whose telephone number is (571) 270-3944. The examiner can normally be reached on Monday - Thursday 7:30 a.m. - 4:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

08/04/09

/Mi'schita' Henson/
Examiner, Art Unit 2857

/Jeffrey R. West/

Primary Examiner, Art Unit 2857